

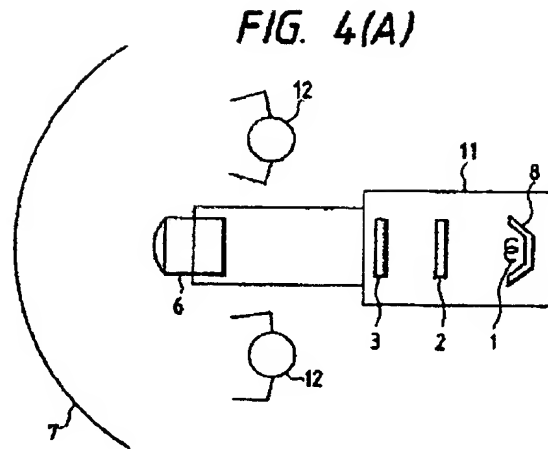
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CENTRAL FAX CENTER****SEP 27 2006****Remarks:**

The above amendments and these remarks are responsive to the Office action dated June 30, 2006. Prior to entry of this response, claims 1-15 and 21-25 were pending in the application. In the Office action, Claims 1-6, 8, 9, and 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwa et al. (US 6,624,952) in view of Tanide et al. (US 5,500,747); Claims 7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwa in view of Tanide and in further view of Cotton et al. (US 6,485,145); and Claims 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwa et al. in view of Booth et al. (US 5,642,927) and Tanide et al. In addition, Claims 1-14 are provisionally rejected under the judicially created doctrine of obviousness-type double-patenting as being unpatentable over claims 15 and 16 of copending Application No. 10/754,093 in view of Cotton et al.; and Claims 21-25 are provisionally rejected under the judicially created doctrine of obviousness-type double-patenting as being unpatentable over claims 15 and 16 of copending Application No. 10/754,093 in view of Booth et al. In view of the amendments above, and the remarks below, Applicant respectfully requests reconsideration of the application and allowance of the pending claims.

Rejections Under 35 U.S.C. §103(a)

Applicant respectfully traverses rejection of claims 1-15 and 21-25. Each of claims 1-15 and 21-25 include a wide-angle lens system that projects a planarly focused image at a field angle of at least 100 degrees onto a substantially planar front projection screen.

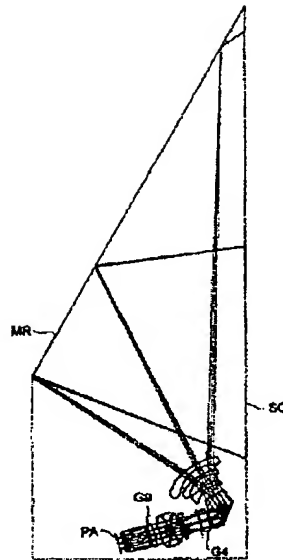
Independent claims 1, 9, and 21 are amended to recite projection of a planarly focused image. If Kuwa is modified to use the projection lens of Tanide, the projected image will not be planarly focused. To the contrary, the image will only be focused when projected onto the dramatically curved screen of Tanide.



Therefore, even when combined, Kuwa and Tanide do not collectively teach the claimed lens systems that project planarly focused images at a field angle of at least 100 degrees. If the projection lens of Kuwa is used, the field angle is less than 100 degrees. If the projection lens of Tanide is used, the projected image is not planarly focused. Alone or in combination, the cited references do not teach each and every element of the claimed inventions. Accordingly, rejection of claims 1-15 and 21-25 should also be withdrawn for at least this reason.

Furthermore, rejection of claims 1-15 and 21-25 should be withdrawn because replacing the projection lens of Kuwa with the wide angle projection lens of Tanide would render Kuwa unsatisfactory for its intended purpose. In particular, the intended purpose of Kuwa is rear-projecting focused video images in a rear-projection television, as shown in Fig. 5 of Kuwa:

FIG.5



In order to satisfactorily project video images in a rear projection television, the optical system must ultimately produce a focused video image on a substantially planar screen, as shown above. The projection lens of Tanide does not produce a focused video image on a substantially planar screen. In contrast, if the projection lens of Tanide is used in the rear projection television of Kuwa, the image on the television screen will be severely out of focus and unsuitable for viewing. Even if the projection system of Kuwa, as modified with the Tanide projection lens, were extracted from the rear projection television and used to front project onto a substantially planar screen, the image would be severely out of focus and unsuitable for viewing. When the proposed modification renders the prior art invention being modified unsatisfactory for its intended purpose, there is no suggestion or motivation to make the proposed modification. MPEP 2143.01. When there is no suggestion or motivation to make the proposed combination, a prima facie case of obviousness is not present.

Rejection of claims 1-15 and 21-25 should further be withdrawn because Kuwa specifically teaches away from the use of a projection lens having a field angle of at least 100 degrees. Kuwa describes all field angles outside the range of 48-60 degrees as being undesirable (Col. 8, line 57 – Col. 9, line 23).

With respect to the angle of view of the projection optical system, it is preferable that the following conditional formula (1) be fulfilled:

$$48^\circ < \omega < 63^\circ \quad (1)$$

where

ω represents the maximum angle of view ($^\circ$).

Conditional formula (1) defines the maximum angle of view of the projection optical system. If the lower limit of conditional formula (1) is transgressed, the projection distance is so long that the rear projection apparatus has an unduly large depth. This makes the projection optical system unsuitable for miniaturization. If the upper limit of conditional formula (1) is transgressed, satisfactory performance cannot be obtained unless either the effective diameter of the front lens unit (GrF) is made larger or the angles of the optical surfaces of the front lens unit (GrF) at their periphery (the angles of tangent lines to each surface at its periphery relative to the normal to the vertex of the surface) are made smaller. Making the effective diameter of the front lens unit (GrF) larger increases the cost of its materials and makes its production difficult. Making the peripheral angles of the optical surfaces of the front lens unit (GrF) smaller results in problems as described earlier. Moreover, these surfaces come to have higher optical powers, and thus become so sensitive to errors as to make the mechanical arrangement and the adjustment procedure difficult. This makes it inevitable to increase the number of lens elements, and thus makes the projection optical system unsuitable for size, weight, and cost reduction.

As can be seen above, the teachings of Kuwa itself eschew the use of a projection lens with a field angle of over 60 degrees (which is much smaller than the claimed field angle of 100 degrees or more). When faced with such a clear and definite teaching, one of ordinary skill in the art would not look to modify Kuwa with a lens that patently violates the teachings of Kuwa, especially with a projection lens that would render Kuwa unsatisfactory for its intended purpose of projecting focused images.

The combination of Kuwa and Tanide does not render obvious claims 1-13 and 15-28 for at least each of the reasons discussed above. Furthermore, the other cited references do not cure the deficiencies of Kuwa and Tanide, because no combination or modification of the references teaches projection systems that project a planarly focused image at a field angle of at least 100 degrees. Accordingly, the 35 U.S.C. 103(a) rejections of claims 1-15 and 21-25 should be withdrawn.

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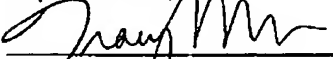
Applicant respectfully traverses the rejection of claims 1-14 and 21-25 on the grounds of nonstatutory double patenting in view of application serial no. 10/754,093. Nevertheless, Applicant submits herewith a terminal disclaimer to overcome this double patenting rejection. Applicant notes that the filing of a terminal disclaimer to obviate a rejection based on nonstatutory double patenting is not an admission of the propriety of the rejection, and raises neither a presumption nor estoppel on the merits of the rejection. *Quad Environmental Technologies Corp. v. Union Sanitary District*, 946 F.2d 870, 20 USPQ2d 1392 (Fed. Cir. 1991).

Conclusion

Applicant believes that this application is now in condition for allowance, in view of the above amendments and remarks. Accordingly, Applicant respectfully requests that the Examiner issue a Notice of Allowability covering the pending claims. If the Examiner has any questions, or if a telephone interview would in any way advance prosecution of the application, please contact the undersigned attorney of record.

CERTIFICATE OF FACSIMILE

I hereby certify that this correspondence is being sent to the U.S. Patent and Trademark Office via facsimile to (571) 273-8300 on September 27, 2006.


Tracy Meeker

Respectfully submitted,

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